



Taper-Lock Bushes

❖ About Taper-Lock Bush

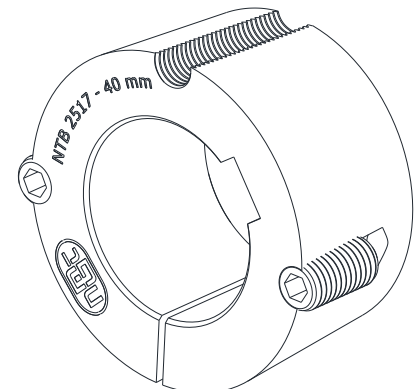
Using **NMTG Taper-Lock Bushes**, it is possible for unskilled labour to achieve 'shrink fit' of Pulleys, Couplings, Weld-on hubs etc. on to shafts only using a hexagon wrench. It changed from the traditional design and now features easy-on, easy-off construction and high standardization. The Taper Lock bush, also referred to as a Taper bush or Taper Fit bush, is a locking mechanism commonly used in Power Transmission Drives for locating pulleys, sprockets, and couplings to shafts.

The arrangement of half-threaded holes and longitudinally split tapered bushes ensure maximum grip and fast, easy fitting. The outside of the bush is tapered to match the component bore that is to be located on the shaft. Tightening of the screws into the threaded holes in the hub forces the bush into the taper bored components, thereby effectively contracting the bore of the Taper-Lock Bush until the equivalent of a shrink fit is obtained.

The Taper lock bush is manufactured from precision **Cast Iron, Steel & Stainless Steel** and is machined to a high quality finish. We can offer other materials according to the customer requirements. We can also do surface coating according to the customer requirement. Taper bushes are available in both **imperial and metric** shaft sizes.

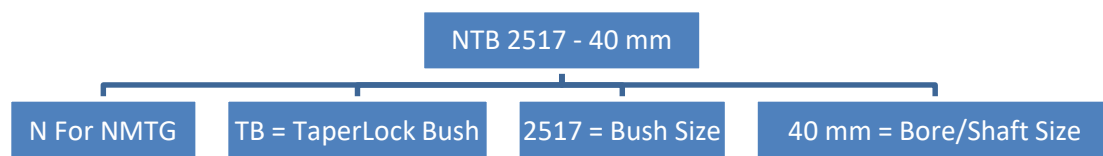
❖ Advantages:

- Ease of installation and removal
- Saves time and cost in fitting.
- Eliminates precision taper fitting keys.
- Interchangeable between many products.
- Taper bored components can be transferred to other diameter shafts by fitting alternative bore bushes.
- Convenience in dismantling for maintenance and component replacement.
- Taper Lock bushes work effectively on shaft diameters of: Nominal +0.051 mm /- 0.127mm.
- Best results are achieved with an ISO h6 tolerance. For shafts up to 100 mm diameter, an affordable forged h9 shaft can be used. To be used with or without key.



❖ How To Order:

Example: (1) NTB 2517 – PB (Pilot Bore) (2) NTB 2517 – 40 mm

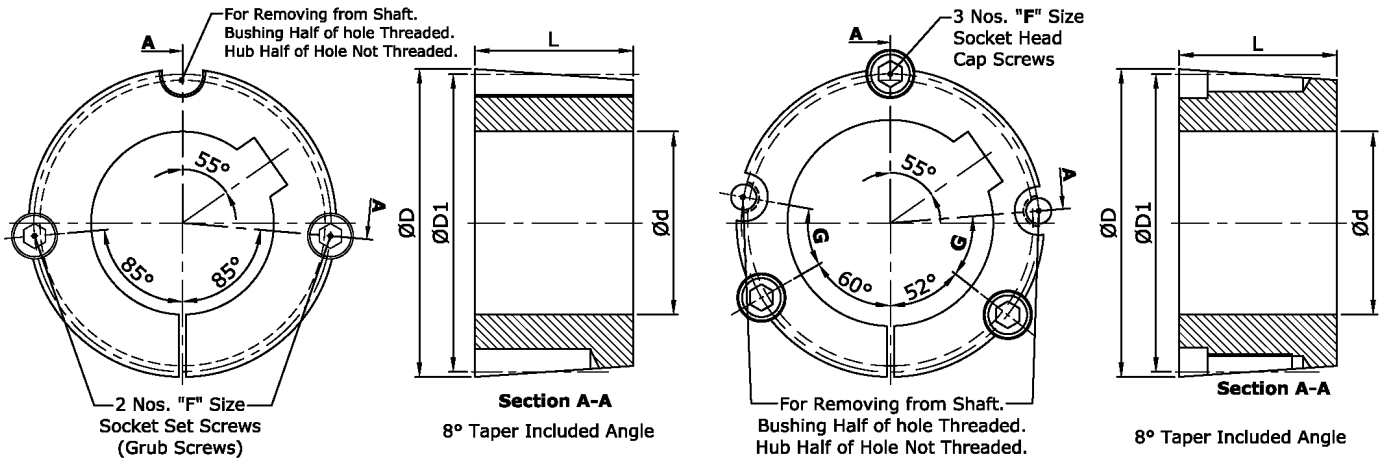


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❖ NTB 2517: BUSHING SIZE

The Taper-Lock bushing size is defined by 4 digits representing two numbers. The first two digits represent the maximum bore size (in inches) and the second two digits represent the bushing length (in inches). For example, product number 2517 has a Approx. max. Bore of 2.5" and a total approx. length of 1.7"



NTB 1008 - 3030

NTB 3525 - 5050

NMTG Model Name-Bush Size	Bore Ranges (d) Min to Max.	Tightening Torque per Screws (TA)	Tightening Torque per Screws (TA)	Screw Qty	G	Screw Size (F) Dia. X Length	Nom. Hex Socket Size (A/F)	Large End Dia (D)	Bush Length (L)	Bolt Circle-PCD (D1)	Approx Mass	
		Nm	ft-lb									
	mm			Nos	Deg	Inch (BSW)	Inch	mm	mm	mm	kg	
NTB 1008	9 to 25	5.6	4.1	2		1/4" x 1/2"	Socket Set Screws (Grub Screws)	1/8	35	22.3	33.7	0.1
NTB 1108	9 to 28	5.6	4.1	2		1/4" x 1/2"		1/8	38	22.3	36.9	0.1
NTB 1210	14 to 30	20	14.8	2		3/8" x 5/8"		3/16	47.6	25.4	44.5	0.25
NTB 1215	14 to 30	20	14.8	2		3/8" x 5/8"		3/16	47.6	38.1	44.5	0.32
NTB 1310	14 to 32	20	14.8	2		3/8" x 5/8"		3/16	50.8	25.4	47.6	0.29
NTB 1610	14 to 42	20	14.8	2		3/8" x 5/8"		3/16	57.2	25.4	54	0.32
NTB 1615	14 to 42	20	14.8	2		3/8" x 5/8"		3/16	57.2	38.1	54	0.45
NTB 2012	14 to 50	30	22.1	2		7/16" x 7/8"		7/32	70	38.1	66.7	0.64
NTB 2517	16 to 60	50	36.9	2		1/2" x 1"		1/4	85.7	44.5	82.6	1.45
NTB 2525	16 to 60	48	35.4	2		1/2" x 1"		1/4	85.7	63.5	82.6	1.95
NTB 3020	25 to 75	90	66.4	2		5/8" x 1"1/4	5/16	108	50.8	101.6	2.63	
NTB 3030	25 to 75	90	66.4	2		5/8" x 1"1/4	5/16	108	76.2	101.6	3.63	
NTB 3525	35 to 100	115	84.8	3	39	1/2" x 1"1/2	Socket Head Cap Screws	3/8	127	63.5	123	3.8
NTB 3535	35 to 90	115	84.8	3	39	1/2" x 1"1/2		3/8	127	88.9	123	5
NTB 4030	40 to 115	170	125.4	3	39	5/8" x 1"3/8		1/2	146	76.2	141	6.2
NTB 4040	40 to 100	170	125.4	3	40	5/8" x 1"3/8		1/2	146	101.6	141	7.7
NTB 4535	55 to 125	190	140.1	3	40	3/4" x 2"		9/16	162	88.9	155.6	7.5
NTB 4545	55 to 110	190	140.1	3	40	3/4" x 2"		9/16	162	114.3	155.6	10.9
NTB 5040	70 to 125	270	199.1	3	37	7/8" x 2"1/4		9/16	177.8	101.6	170.7	11.1
NTB 5050	70 to 125	270	199.1	3	37	7/8" x 2"1/4		9/16	177.8	127	170.7	14.5

❖ Technical Notes:

- ✓ Use in position shown in drawing above for tightening bushing on shaft.
- ✓ Bushings cannot be bored larger than largest bore listed.
- ✓ Special bores and keyway sizes can be supplied on request.
- ✓ If two bushings are used on same component and shaft, fully tighten one bushing before working on the other.

NMTG Mechtrans Techniques Pvt. Ltd.

An ISO 9001:2015, ISO 14001:2015, ISO 45001:2018 & CE Certified Co.

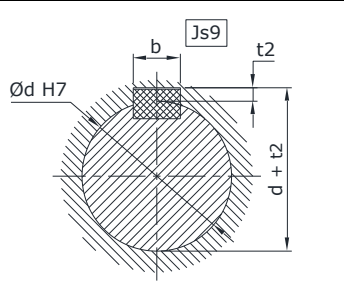
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❖ Metric Bores And Keyways Details:

Bore Dia.	Keyway DIN 6885-1		Shallow Keyway Depth (t ₂ + Tol.)	NMTG Model Name-Bush Size							
	Width (Js9)	Depth (t ₂ + Tol.)		NTB 1008	NTB 1108	NTB 1210 NTB 1215	NTB 1310	NTB 1610 NTB 1615	NTB 2012	NTB 2517 NTB 2525	NTB 3020 NTB 3030
9	3	1.4 + 0.1	-	9	9						
10	3	1.4 + 0.1	-	10	10						
11	4	1.8 + 0.1	-	11	11						
12	4	1.8 + 0.1	-	12	12						
14	5	2.3 + 0.1	-	14	14	14	14	14	14		
15	5	2.3 + 0.1	-	15	15	15	15	15	15		
16	5	2.3 + 0.1	-	16	16	16	16	16	16	16	
18	6	2.8 + 0.1	-	18	18	18	18	18	18	18	
19	6	2.8 + 0.1	-	19	19	19	19	19	19	19	
20	6	2.8 + 0.1	-	20	20	20	20	20	20	20	
22	6	2.8 + 0.1	-	22	22	22	22	22	22	22	
24	8	3.3 + 0.2	1.3 + 0.1	24*	24	24	24	24	24	24	
25	8	3.3 + 0.2	1.3 + 0.1	25*	25	25	25	25	25	25	25
28	8	3.3 + 0.2	1.3 + 0.1		28*	28	28	28	28	28	28
30	8	3.3 + 0.2	-			30	30	30	30	30	30
32	10	3.3 + 0.2	-				32	32	32	32	32
35	10	3.3 + 0.2	-					35	35	35	35
38	10	3.3 + 0.2	-					38	38	38	38
40	12	3.3 + 0.2	1.3 + 0.1					40*	40	40	40
42	12	3.3 + 0.2	1.3 + 0.1					42*	42	42	42
45	14	3.8 + 0.2	-						45	45	45
48	14	3.8 + 0.2	-						48	48	48
50	14	3.8 + 0.2	-						50	50	50
55	16	4.3 + 0.2	-							55	55
60	18	4.4 + 0.2	-							60	60
65	18	4.4 + 0.2	-								65
70	20	4.9 + 0.2	-								70
75	20	4.9 + 0.2	-								75

Bore Dia.	Keyway DIN 6885-1		Shallow Keyway Depth (t ₂ + Tol.)	NMTG Model Name-Bush Size							
	Width (Js9)	Depth (t ₂ + Tol.)		NTB 3525	NTB 3535	NTB 4030	NTB 4040	NTB 4535	NTB 4545	NTB 5040	NTB 5050
35	10	3.3 + 0.2	-	35	35						
38	10	3.3 + 0.2	-	38	38						
40	12	3.3 + 0.2	-	40	40	40	40				
42	12	3.3 + 0.2	-	42	42	42	42				
45	14	3.8 + 0.2	-	45	45	45	45				
48	14	3.8 + 0.2	-	48	48	48	48				
50	14	3.8 + 0.2	-	50	50	50	50				
55	16	4.3 + 0.2	-	55	55	55	55	55	55		
60	18	4.4 + 0.2	-	60	60	60	60	60	60		
65	18	4.4 + 0.2	-	65	65	65	65	65	65		
70	20	4.9 + 0.2	-	70	70	70	70	70	70	70	70
75	20	4.9 + 0.2	-	75	75	75	75	75	75	75	75
80	22	5.4 + 0.2	-	80	80	80	80	80	80	80	80
85	22	5.4 + 0.2	-	85	85	85	85	85	85	85	85
90	25	5.4 + 0.2	-	90	90	90	90	90	90	90	90
95	25	5.4 + 0.2	-	95	95	95	95	95	95	95	95
100	28	6.4 + 0.2	4.4 + 0.2	100*		100	100	100	100	100	100
105	28	6.4 + 0.2	-			105		105	105	105	105
110	28	6.4 + 0.2	-			110		110	110	110	110
115	32	7.4 + 0.2	5.4 + 0.2			115*		115		115	115
120	32	7.4 + 0.2	-					120		120	120
125	32	7.4 + 0.2	-					125		125	125



All Dimensions in Millimetres.

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❖ Installation of a Taper-Lock Bush:

Installation of a Taper Lock bush components, is as follows:

- 1) The Taper Lock bush needs to be clean all parts of the bushing and bore of hub thus removing any protective coating, oil, and dirt or metal filings.
- 2) Check the bushing to ensure all surfaces are free from nicks and burrs, and ensure the bushing has no signs of cracking or fatigue. Insert bush into the hub and match half holes to make complete holes.
- 3) It is important to note that the holes need to be matched, not the threads. Each hole will be threaded on one side only.
- 4) Oil thread and either the end of set screws or under the head of the cap screws. Install screws loosely in holes that are threaded on the hub side.
- 5) When using a key, it should be first fitted in the shaft keyway. There should be a top clearance between the key and keyway bore.
- 6) Ensure there is an air gap between the top of the key and the bushing keyway slot. This will prevent cracking of the bush. **IMPORTANT:** Ensure that there is no oil or lubricant between the taper on the outside of the bushing and the taper bore of the hub, to which the bushing is being installed.
- 7) Make sure that the bushing is free in the hub. Slip assembly onto shaft and align in the desired position.
- 8) Tighten screws evenly and alternately until the part has tightened. (See table below for wrench torque)
- 9) Hammer with a block or sleeve the large end of the bushing. Re-tighten screws using the correct torque. Repeat this procedure until the screws no longer turn. Fill remaining holes with grease to prevent dirt build-up.
- 10) When the drive has been operating under load for a short period of time, check and ensure that the screws remained at the appropriate tightening torque.

❖ Removal of a Taper-Lock Bush:

Removal of a Taper Lock bush is as follows:

- 1) Remove all screws. Oil thread and either the end of set screws or under the head of cap screws.
- 2) Insert screws in hole(s) that are threaded on the bushing side (see diagram on following page). Note that there will be one extra screw left over.
- 3) Tighten screws alternately until the bushing is loose in the hub. If the bushing does not loosen immediately, it may be necessary to tap on the hub to loosen the bushing.
- 4) Fill empty holes with grease to exclude dirt.